Listing of Claims

1. **(Currently Amended)** A method for generating at least one error-corrected experiment profile of at least one experiment profile in a plurality of pairs of profiles $\{A_m, C_m\}$, where m = 1, 2, ..., M, and M is the number of the pairs of profiles; and wherein, for each $m \in \{1, 2, ..., M\}$, A_m is an experiment profile, and C_m is a reference profile; and wherein $\{A_m\}$ represents experiment profiles in said plurality of pairs of profiles $\{A_m, C_m\}$ and $\{C_m\}$ represents reference profiles in said plurality of pairs of profiles $\{A_m, C_m\}$, said method comprising:

(a) calculating, on a suitably programmed computer, an average reference profile $\bar{C}$ of said plurality of reference profiles $\{C_m\}$ where m = 1, 2, ..., M;

(b) determining, on a suitably programmed computer, for at least one profile pair $\{A_m, C_m\}$ where $m \in \{1, 2, ..., M\}$ of said plurality of pairs of profiles $\{A_m, C_m\}$ a differential reference profile, $C_{diff}(m,k)$, computed between C_m and $\bar{C}$, **wherein said average reference profile $\bar{C}$ comprises data set $\{\bar{C}(k)\}$**;

(c) via said differential reference profile determined for said profile pair, removing, on a suitably programmed computer, systematic cross-experiment error from an experiment profile A_m of said at least one profile pair $\{A_m, C_m\}$ where $m \in \{1, 2, ..., M\}$ to generate a first error-corrected experiment profile A'_m for each $m \in \{1, 2, ..., M\}$, wherein said experiment profile A_m comprises a first data set, $\{A_m(k)\}$, said reference profile C_m comprises a second data set, ~~said average reference profile $\bar{C}$ comprises data set $\{\bar{C}(k)\}$,~~ and said first error-corrected experiment profile A'_m comprises data set